

REMARKS

Claims 1, 3-7, 9-12, and 14-20 are pending in this application. By this Amendment, claims 1, 9, and 12 are amended. No new matter is added. Reconsideration of the application is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration; and (c) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

The Examiner is thanked for the many courtesies extended to Applicants' attorney in the course of a personal interview conducted March 2, 2004. The substance of that interview is included herein per MPEP §713.04.

I. The Claims Satisfy the Requirements of 35 U.S.C. §112

The Office Action rejects claim 1 under 35 U.S.C. §112 , second paragraph, as indefinite. Claim 1 is amended to obviate the rejection. Accordingly, withdrawal of the 35 U.S.C. §112, second paragraph is respectfully requested.

II. The Terms "human visual filter" and "test targets" are Fully Supported by the Specification

During the personal interview, the Examiner objected to the terms "human visual filter" and "test targets" as not being taught by the specification. The Examiner's objection is respectfully traversed.

The term "human visual filter" is fully supported by the specification. Examples of "human visual filters" are disclosed on page 8, lines 5 through 16, and page 9, lines 4-6 of the specification. The discussion of "human visual filters" is not limited to this text.

The term "test targets" is also fully supported by the specification. For example, the term "test targets" is disclosed on page 4, lines 20-22. The discussion of "test targets" is not limited to this text.

Accordingly, withdrawal of these objections is respectfully requested.

III. The Claims Define Allowable Subject Matter

The Office Action rejects claims 1, 3-7, 9, 11, 12, 18, and 19 under 35 U.S.C. §102(e) as anticipated by U.S. Patent 6,275,600 to Banker et al. ("Banker"). This rejection is respectfully traversed.

In paragraph 10, the Office Action asserts:

"Applicant submits that the claims have been amended to clarify that they are directed to an image analysis system and method that quantify image quality results that are based on human visual system models so that only those differences perceivable by a human viewer are determined....Applicant is arguing subject matter not being claimed."

Applicants further amend claim 1 to further clarify that the image analysis system obtains "results quantifying image quality in which the results correlate with image quality deviations perceivable only by a human observer." (Emphasis added.)

Applicants further amend claim 12 to further clarify that "image quality analysis provides image quality results that correlate with image quality deviations perceivable only by a human observer." (Emphasis added.)

In addition, the Office Action asserts, "Banker clearly discloses that the image quality rating is based on a human perception of quality (col. 10, lines 39-39 and col. 3, lines 1-20). This assertion is respectfully traversed.

Fig. 2 of Banker discloses a test pattern including an upper portion 15 and a lower portion containing target objects 16a-16f. Specifically, col. 3, lines 17-22 recites,

"The upper portion 15 of printed image 16 contains samples of different text, graphics, and image patterns and is intended for visual quality ranking (not shown). Approximately the lower third of printed image 16 contains target objects 16a-f that are analyzed **without human intervention**." (Emphasis added.)

Ob/su-61
Claims 1, 3, 4
of Banker
Banker does not disclose, teach or suggest any type of module which would perform a visual ranking. Therefore, a human observer must assign a quality ranking by manually viewing upper portion 15 with his or her eyes. Only the lower third of printed image 16 is analyzed **without human intervention**. Also, since the lower test images 16a-f are specifically taught to be analyzed **without** human intervention, this confirms the implicit teaching that the upper portion 15 is for manual visual ranking only. Moreover, the specification does not even refer to the upper portion 15 in measuring the printed image characteristics. Instead, Banker focuses on measuring the printed image characteristics of 16a-f without taking into consideration image quality deviations perceivable only by a human observer.

The Office Action asserts that Banker discloses filtering or modeling so that image quality results correlate to human perceivable deviations, because Banker recognizes streaks (col. 6, lines 54-64). However, this passage does not teach or suggest filtering to conform the test pattern to a human visual system. A Gaussian function is mentioned, but details are absent. Although Banker mentions a "perceptible visibility," this only generally states that streaks are counted and ranked by high correlation values. Obviously, bigger streaks will have more visibility, but Banker fails to teach or disclose filtering or modeling so that image quality results correlate to human perceivable deviations. That is, Banker is silent as to the image quality analysis **only** determining image quality deviations perceivable by a human viewer. The only source of such a teaching is Applicants' specification, the use of which constitutes impermissible hindsight.

Moreover, Applicants respectfully submit that Banker does not disclose, teach or suggest "the image quality analysis module includes a human visual filter that filters the test targets, so that the test targets are similar in resolution to that perceivable by a human visual system," as recited in claim 1. Applicants amended claim 1 to clarify that the image quality analysis module includes the filter, and that a human being is not performing the filtering by manually viewing the test targets with his or her eyes.

Further, Applicants respectfully submit that Banker does not disclose, teach or suggest "filtering the test targets using a human visual perception model so that the test targets have a resolution similar to that perceivable by a human visual system," as recited in claim 12. Banker teaches manually viewing upper portion 15 with the eyes of a human being rather than filtering using a human visual perception model.

For at least these reasons, it is respectfully submitted that independent claims 1 and 12 are patentably distinguishable over the applied art. The remainder of the claims that depend from independent claims 1 and 12 are likewise patentably distinguishable over the applied art for at least the reasons discussed above, as well as for the additional features they recite.

The Office Action rejects claims 10 and 14-17 under 35 U.S.C. §103 as unpatentable over Banker in view of U.S. Patent 5,365,310 to Jenkins.


Jenkins does not overcome the deficiencies of Banker with respect to independent claims 1 and 12. Since claim 10 depends from claim 1, claims 14-16 depend from claim 12, and claim 17 depends from claim 16, it is respectfully submitted that claims 10 and 14-17 are patentably distinguishable over the applied art for the same reasons discussed above, as well as for the additional features they recite.

IV. Conclusion

For at least these reasons, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3-7, 9-12 and 14-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number set forth below.

Respectfully submitted,



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